

AMENDMENTS

Amendments to the Claims:

The following listing of claims will replace all previous listings and versions thereof:

Listing of Claims:

1.-13. (cancelled)

14. (currently amended) A purified human nucleic acid molecule variant of SEQ ID NO:65, wherein said variant comprises ~~comprising~~ a nucleic acid sequence selected from the group consisting of:

- (a) the nucleic acid sequence of SEQ ID NO:65, which encodes an alpha subunit of a sodium channel, the nucleic acid comprising a deletion mutation which deletes an asparagine at position 43 of SEQ ID NO:67;
- (b) the nucleic acid sequence of SEQ ID NO:65, which encodes an alpha subunit of a sodium channel, the nucleic acid comprising a G to A mutation that translates into an isoleucine instead of a valine at position 1035 of SEQ ID NO:67 ~~a nucleic acid sequence encoding the alpha subunit of the sodium channel of SEQ ID NO:67;~~
- (c) a full length complement of (a) or (b);
- (d) a nucleic acid sequence encoding [[an]] a variant alpha subunit of a sodium channel which hybridizes under high stringency conditions to the full length nucleic acid sequence of (a), and (i) comprises a deletion mutation which deletes an asparagine at position 43 of SEQ ID NO:67 or (ii) comprises a G to A mutation that translates into an isoleucine instead of a valine at position 1035 of SEQ ID NO:67,
wherein said high stringency conditions comprise a hybridization at 65°C in 5 x SSC, 5 x Denhardt's solution, 1% SDS, and 100 µg/ml denatured salmon sperm DNA; and
- (e) a full length complement of (d)

(f) ~~— a nucleic acid encoding~~

wherein said human nucleic acid molecule of (a), (b) or (d) comprises a mutation selected from the group consisting of:

(i) ~~— a deletion mutation which deletes a codon corresponding to asparagine at position 43 of SEQ ID NO:67; and~~

(ii) ~~— a G to A mutation corresponding to an isoleucine at amino acid 1035 of SEQ ID NO:67 instead of a valine at amino acid 1035 of SEQ ID NO:67.~~

15.-22. (cancelled)

23. (currently amended) The purified nucleic acid of claim 14, wherein said nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO:65 and wherein said variant human nucleic acid molecule comprises a mutation selected from the group consisting of:

(i) a deletion mutation which deletes a codon corresponding to asparagine at position 43 of SEQ ID NO:67; [[and]]

(ii) a G to A mutation corresponding to an isoleucine at amino acid 1035 of SEQ ID NO:67 instead of a valine at amino acid 1035 of SEQ ID NO:67;and

(iii) a full-length complement of (i) or (ii).

24. (currently amended) The purified nucleic acid of claim [[14]]23, wherein the presence of said nucleic acid in a sample of a subject indicates that the subject has an increased risk of idiopathic generalized epilepsy.

25.-29. (cancelled)

30. (previously presented) A vector comprising any one of the nucleic acids of claim 23.

31. (previously presented) An isolated cell comprising the vector of claim 30.

32. (cancelled)
33. (cancelled)
34. (currently amended) A purified human nucleic acid molecule comprising a variant of the nucleic acid sequence of SEQ ID NO:65, wherein the variant comprises [[has]] (i) a mutation corresponding to a three nucleotide deletion of an AAT triplet starting 126 nucleotides from an initiator codon at nucleotide 633 of SEQ ID NO:65 or (ii) a mutation corresponding to a substitution of a G nucleotide 3,102 nucleotides from an initiator codon at nucleotide 633 of SEQ ID NO:65, wherein the nucleic acid variant encodes a sodium channel and wherein said variant hybridizes under high stringency conditions to the full length variant sequence of (i) or (ii), and wherein said high stringency conditions comprise a hybridization at 65° C in 5xSSC, 5x Denhardt's solution, 1% SDS, and 100 µg/ml denatured salmon sperm DNA.
35. (currently amended) A purified human nucleic acid molecule comprising a variant of the nucleic acid sequence of SEQ ID NO:65 wherein the variant comprises ~~comprising~~ (i) a deletion mutation which deletes a codon corresponding to asparagine at position 43 of SEQ ID NO:67; or (ii) a G to A mutation corresponding to [[an]]a valine to isoleucine at amino acid 1035 of SEQ ID NO:67.
36. (new) An isolated nucleic acid comprising a full length nucleotide sequence of SEQ ID NO:409 encoding a sodium channel alpha subunit.
37. (new) A vector comprising the nucleic acid of claim 36.
38. (new) An isolated cell comprising the vector of claim 37.
39. (new) An isolated nucleic acid comprising a full length nucleotide sequence of SEQ ID NO:410 or SEQ ID NO:411 encoding a variant of a sodium channel alpha subunit.
40. (new) A vector comprising a nucleic acids of claim 39.
41. (new) An isolated cell comprising the vector of claim 40.